DEPARTMENT OF TRANSPORTATION
DIVISION OF ENGINEERING SERVICES
Office of Structural Materials
Quality Assurance and Source Inspection

Bay Area Branch
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Contract #: 04-0120F4
Cty: SF/ALA Rte: 80 PM: 13.2/13.9
File #: 69.28

WELDING INSPECTION REPORT

Resident Engineer: Siegenthaler, Peter
Address: 333 Burma Road
City: Oakland, CA 94607

Report No: WIR-018456
Date Inspected: 07-Dec-2010

Project Name: SAS Superstructure
Prime Contractor: American Bridge/Fluor Enterprises, a JV
Contractor: Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island

OSM Arrival Time: 700
OSM Departure Time: 1900
Location: Shanghai, China

CWI Name:	Li Yang			**CWI Present:**	☑ Yes	☐ No		
Inspected CWI report:	☐ Yes	☐ No	☑ N/A	**Rod Oven in Use:**	☑ Yes	☐ No	☐ N/A	
Electrode to specification:	☑ Yes	☐ No	☐ N/A	**Weld Procedures Followed:**	☑ Yes	☐ No	☐ N/A	
Qualified Welders:	☑ Yes	☐ No	☐ N/A	**Verified Joint Fit-up:**	☐ Yes	☑ No	☐ N/A	
Approved Drawings:	☑ Yes	☐ No	☐ N/A	**Approved WPS:**	☑ Yes	☐ No	☐ N/A	
				Delayed / Cancelled:	☐ Yes	☑ No	☐ N/A	

Bridge No: 34-0006
Component: OBG Segments

Summary of Items Observed:

On this date Caltrans OSM Quality Assurance (QA) Inspector, Dan Hernandez was present during the times noted above to observe the fit up, welding and related activities associated with the fabrication of the San Francisco Oakland Bay Self Anchored Suspension Bridge at Zhenhua Port Machinery Company (ZPMC) facility on Changxing Island.

OBG Trial Assembly Yard

Segment 11EE

This QA Inspector observed Shielded Metal Arc Welding (SMAW) in progress of a Complete Joint Penetration (CJP) weld joint. The Weld joint is designated CA093-006, Deck Plate to Edge Plate hold back weld. The welder is identified as #040320 and was observed welding in the 4G (overhead) position using approved Welding Procedure Specification WPS-B-P-2214-TC-U4b-FCM-1.

This QA Inspector observed Flux Cored Arc Welding (FCAW) in progress of a Complete Joint Penetration (CJP) weld joint. The Weld joint is designated CA093-005, Side Plate to Edge Plate hold back weld. The welder is identified as #047353 and was observed welding in the 1G (flat) position using approved Welding Procedure Specification WPS-B-T-2231-ESAB.

Segment 12AE

This QA Inspector observed Shielded Metal Arc Welding (SMAW) in progress of a Complete Joint Penetration (CJP) weld joint. The Weld joint is designated SEG3001AA-001, Deck Plate to Edge Plate hold back weld. The welder is identified as #040320 and was observed welding in the 4G (overhead) position using approved Welding Procedure Specification WPS-B-P-2214-TC-U4b-FCM-1.

This QA Inspector observed Flux Cored Arc Welding (FCAW) in progress of a Complete Joint Penetration (CJP) weld joint. The Weld joint is designated SEG3001AA-002, Side Plate to Edge Plate hold back weld. The welder is identified as #047353 and was observed welding in the 1G (flat) position using approved Welding Procedure Specification WPS-B-T-2231-ESAB.

Segment 12AW

This QA Inspector observed Flux Cored Arc Welding (FCAW) in progress of a fillet weld joint. The Weld joint is designated BP3020-001-061, 062, Bottom Plate WT stiffener hold back weld. The welder is identified as #053486 and was observed welding in the 2F (horizontal) position using approved Welding Procedure Specification WPS-B-T-2132-ESAB.

This QA Inspector observed Flux Cored Arc Welding (FCAW) in progress of a fillet weld joint. The Weld joint is designated SP3048-001-024, 023, Side Plate WT stiffener hold back weld. The welder is identified as #049220 and was observed welding in the 2F (horizontal) position using approved Welding Procedure Specification WPS-B-T-2132-ESAB.

Segment 12BW

This QA Inspector observed Flux Cored Arc Welding (FCAW) in progress of a fillet weld joint. The Weld joint is designated BP3023-001-019, 020, Bottom Plate WT stiffener hold back weld. The welder is identified as #053486 and was observed welding in the 2F (horizontal) position using approved Welding Procedure Specification WPS-B-T-2132-ESAB.

This QA Inspector observed Flux Cored Arc Welding (FCAW) in progress of a fillet weld joint. The Weld joint is designated SP3052-001-025, 026, Side Plate WT stiffener hold back weld. The welder is identified as #049220 and was observed welding in the 2F (horizontal) position using approved Welding Procedure Specification WPS-B-T-2132-ESAB.

Segment 12AW/12BW

This QA Inspector observed Shielded Metal Arc Welding (SMAW) in progress of a Complete Joint Penetration (CJP) weld joint. The Weld joint is designated BP3019-001-034, Bottom Plate WT stiffener web splice. The welder is identified as #044551 and was observed welding in the 3G (vertical) position using approved Welding Procedure Specification WPS-B-P-2213-B-U2-FCM-1.

This QA Inspector observed Shielded Metal Arc Welding (SMAW) in progress of a Complete Joint Penetration (CJP) weld joint. The Weld joint is designated BP3021-001-042, Bottom Plate WT stiffener web splice. The welder is identified as #057333 and was observed welding in the 3G (vertical) position using approved Welding

Procedure Specification WPS-B-P-2213-B-U2-FCM-1.

This QA Inspector observed Shielded Metal Arc Welding (SMAW) in progress of a Complete Joint Penetration (CJP) weld joint. The Weld joint is designated SP3036-001-243, Side Plate WT stiffener web splice. The welder is identified as #041713 and was observed welding in the 3G (vertical) position using approved Welding Procedure Specification WPS-B-P-2213-B-U2-FCM-1.

This QA Inspector observed Shielded Metal Arc Welding (SMAW) in progress of a Complete Joint Penetration (CJP) weld joint. The Weld joint is designated SP3037-001-162, Side Plate WT stiffener web splice. The welder is identified as #040656 and was observed welding in the 3G (vertical) position using approved Welding Procedure Specification WPS-B-P-2213-B-U2-FCM-1.

This QA Inspector observed Shielded Metal Arc Welding (SMAW) in progress of a Complete Joint Penetration (CJP) weld joint. The Weld joint is designated SP3046-001-088, Side Plate WT stiffener web splice. The welder is identified as #046704 and was observed welding in the 3G (vertical) position using approved Welding Procedure Specification WPS-B-P-2213-B-U2-FCM-1.

For the above mentioned welding activities ZPMC Quality Control (QC) Inspectors are identified as Shi Lie and Li Hua Jie. The welding variables recorded by QC appeared to comply with the Applicable WPS.

Segment 11EW

This QA Inspector observed ABF personnel performing Magnetic Particle Testing on the Edge Plate at locations of removed studs at panel points 107-108.

This QA Inspector observed the fit up of suspender bracket at panel point 108.

Segment 11DW/11EW

This QA Inspector observed ABF personnel performing Magnetic Particle Testing on the Side Plate transverse CJP splice, including locations of removed fit up plates, counter weight side.

Segment 12AE

This QA Inspector observed ABF personnel performing Ultrasonic Testing on the Longitudinal Diaphragm flange to floor beam connection on the west side of panel point 109, bike path side.

Mechanical Test Weld Lab

This QA Inspector observed the following mechanical tests for Procedure Qualification Records (PQR):

PQR HP2010162 (1G)
PQR HP2010163 (3G)

Macro etch (2 samples)
Reduced Section Tension Test (2 samples)
Side Bend Test (4 samples)

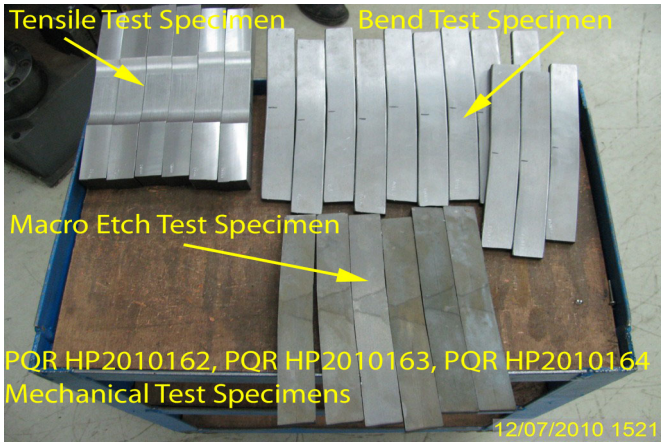
The PQRs were performed with the Flux Cored Arc Welding (FCAW) process using ESAB E71T-1M Dual Shield 70 Ultra Plus electrode with ceramic backing.

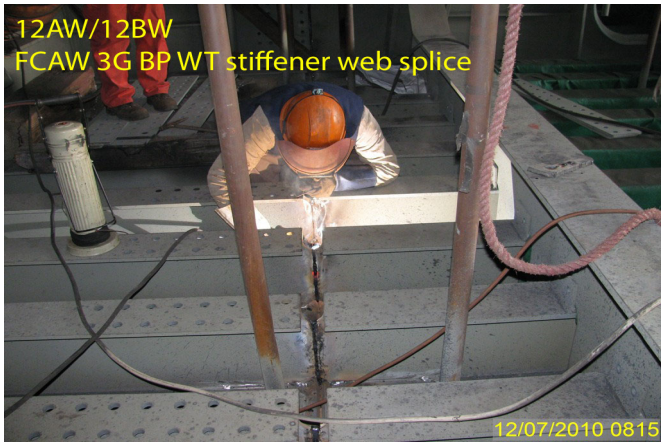
PQR HP2010164 (1G)

Macro etch (2 samples)
Reduced Section Tension Test (2 samples)
Side Bend Test (4 samples)

The PQR was performed with the Flux Cored Arc Welding (FCAW) process using ESAB E71T-1M Dual Shield 70 Ultra Plus electrode for the root pass and the Submerged Arc Welding (SAW) process for the fill and cover passes using the Hyundai EH14 electrode with ceramic backing.

Unless otherwise noted, all work observed on this date appeared to generally comply with applicable contract documents.





WELDING INSPECTION REPORT

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Summary of Conversations:

No relevant conversations.

Comments

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact Eric Tsang, 150-0042-2372 , who represents the Office of Structural Materials for your project.

Inspected By:	Hernandez,Dan	Quality Assurance Inspector
Reviewed By:	Dsouza,Christopher	QA Reviewer